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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,774

02/01/2007

Satoyuki Nomura

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07/02/2010

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EXAMINER

NGUYEN, VU ANH

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

07/02/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary	Application No. 10/559,774	Applicant(s) NOMURA ET AL.	
	Examiner Vu Anh Nguyen	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/07/2005, 10/03/2007, 04/05/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species I (Claims 1-4 and 9-12) in the reply filed on 06/14/2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 5-8 are withdrawn from further consideration as directed to non-elected species.

Response to Amendment

2. The amendment to the specification, filed 06/14/2010, is acknowledged and made of record.

Claim Objections

3. Claim 12 is objected to because of the following informalities: minor grammatical error (i.e., a term such as "using" should be inserted after "fabricated"). Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-4 and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. In claim 1, the term R_2 of the definition of B : $> CR_2$ is not defined.

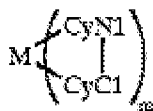
Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

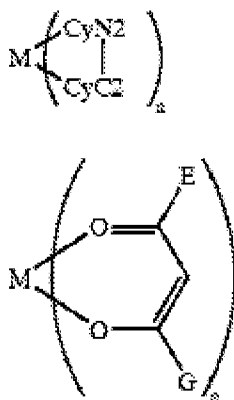
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

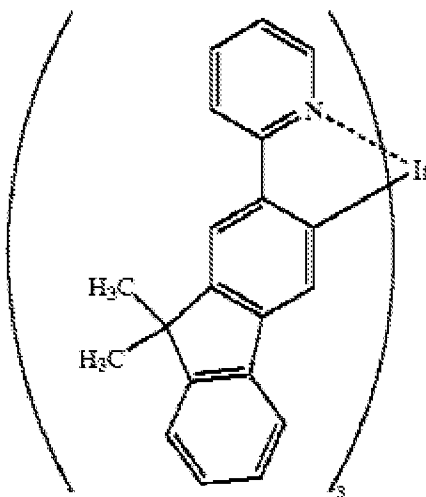
8. Claims 1-4, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Takiguchi et al. (US 2003/0068535).
9. Corresponding to the limitations set forth in these claims, Takiguchi et al. (Takiguchi, hereafter) discloses a metal coordination compound and an OLED comprising the same, wherein said compound has a general formula of $ML_mL'_n$, in which M is Ir, Pt, Rh or Pd; L and L' are bidentate ligands; m is 1, 2 or 3 and n is 0, 1 or 2 with $m+n = 2$ or 3; the ML_m portion is represented by



and the ML'_n is one of the followings:



A specific example of the metal coordination compound is the following [0139]:



Such compound reads on claim 1. A compound that reads on claim 2 is also disclosed (compound # 142 in table 9). The pyridine moiety has substituents that include fluorine atoms (1st line of [0056]).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

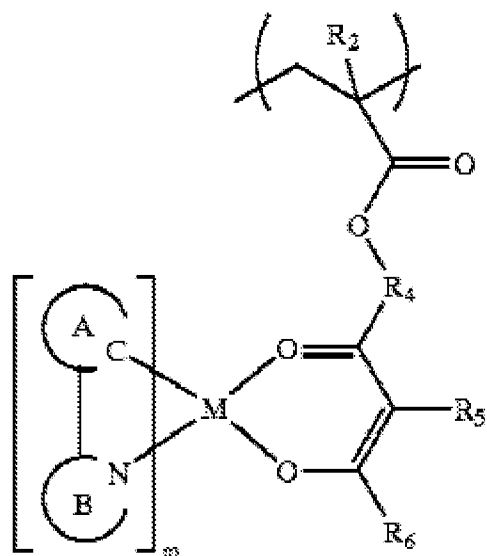
obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

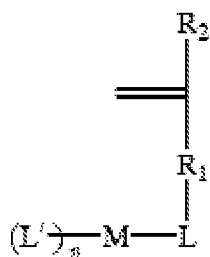
12. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takiguchi et al. (US 2003/0068535) in view of Kamatani et al. (US 2003/0224208).

13. Regarding the limitations set forth in these claims, the compound of claim 1 and the device of claim 11 have been shown to be anticipated by Takiguchi as discussed above. However, Takiguchi fails to teach a polymer composition comprising the disclosed metal coordination compound and an OLED comprising said composition.

14. Kamatani et al. (Kamatani, hereafter) discloses a polymer and a OLED comprising the same, wherein said polymer is characterized by having a light-emitting metal coordination compound chemically connected to the backbone of the polymer via a spacer (abstract). The polymer has exemplary segments represented by the following structure [0039]:



The polymer is prepared from monomers of the form [0041]:



wherein M is Ir, Pt, Rh or Pd; R_2 is hydrogen or a substituent [0040]; R_1 and L form a spacer [0067]; and L' is a bidentate ligand that includes at least one that reads on the ligands being claimed in claim 1 (structures #4 and # 7 on page 5). The polymer backbone includes conjugated and non-conjugated polymers (pages 8-10).

[Motivations] It is further disclosed that conventional electroluminescence device fabricated from light-emitting materials that are small molecules is often limited to vapor-phase deposition whereas using light-emitting materials in the disclosed polymeric organic-inorganic hybrid form enables fabrication via coating method, which in turns

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leads to significant cost reduction [0018]. Moreover, the disclosed polymer is prepared in such a manner that enables good control of the amount of the metal complex incorporated into the polymer backbone [0023-0024].

15. In light of such benefits, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the OLED taught by Takiguchi by having the metal coordination compound taught by Takiguchi chemically attached to the backbone of a polymer in the manner taught by Kamatani so as to take advantage of the low-cost solvent-processed deposition method.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Anh Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 8:00 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Anh Nguyen
Examiner
Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796